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BINGHAM, MCCUTCHEN LLP
THREE EMBARCADERO CENTER
18 FLOOR
SAN FRANCISCO, CA 94111-4067

EXAMINER	
COUGHLAN, PETER D	

ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/722,407	CHENG, E-CHAIN	
	Examiner	Art Unit	
	Peter Coughlan	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. Claims 1-18 are pending in this application.

35 USC § 101

2. Claims 1-18 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. See MPEP 2100-12.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Braden-Harder, and further in view of Ren, and further in view of Gould, and further in view of Cotofana, and further in view of Mehrotra, and further in view of Satake (U. S. Patent 5268840, referred to as **Chang**; U. S. Patent 5933822, referred to as **Braden-Harder**; 'Dialogue Machine Translation System Using Multiple Translation Processors', referred to as **Ren**: U. S. Patent 5983179, referred to as **Gould**;'Periodic Symmetric Functions, Serial Addition, and Multiplication with Neural Networks', referred to a **Cotofana**; 'Elements of Artificial Neural Networks', referred to as **Mehrotra**; U. S. Patent 5917927, referred to as Satake).

Claim 1.

Chang teaches a front code and a rear code (**Chang**, C6:58-68; Examiner's Note (EN) 'Artificial intelligence' of applicant is equivalent to 'Knowledge information' of Chang.);

Chang does not teach an artificial intelligence engine used to compute an experience analytic parameter from the front code and the rear code with a predetermined value of the experience analytic parameter, wherein the experience analytic parameter is alternatively added to either the front code or the rear code to compute a new experience analytic parameter. Braden-Harder teaches an artificial intelligence engine used to compute an experience analytic parameter from the front code and the rear code with a predetermined value of the experience analytic

parameter, wherein the experience analytic parameter is alternatively added to either the front code or the rear code to compute a new experience analytic parameter (**Braden-Harder**, C25:41-48; Examiner's Note (EN) 'Artificial intelligence engine' of applicant is equivalent to 'neural network' of Braden-Harder.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Chang by incorporating a learning engine with a cpu as taught by Braden-Harder to have an artificial intelligence engine used to compute an experience analytic parameter from the front code and the rear code with a predetermined value of the experience analytic parameter, wherein the experience analytic parameter is alternatively added to either the front code or the rear code to compute a new experience analytic parameter.

For the purpose of a system having the benefits of a learning system.

Chang does not teach an experience analytic and statistical module to record and modify the experience analytic parameter. Braden-Harder teaches an experience analytic and statistical module to record and modify the experience analytic parameter (**Braden-Harder**, abstract:1-5 and C25:41-48; EN 'Experience analytic parameter' of applicant is equivalent to the weights that are associated with a neural network.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Chang by using both a experience factor with a statistical model as part of the data processing system as taught by Braden-Harder to teach an experience analytic and statistical module to record and modify the experience analytic parameter.

For the purpose of using, established methods of statistics to improve the experience module.

Chang and Braden-Harder do not teach a modification module to modify the front code and the rear code in accordance with a calculation result of the experience analytic and statistical module about the experience analytic parameter. Ren teaches a modification module to modify the front code and the rear code in accordance with a calculation result of the experience analytic and statistical module about the experience analytic parameter (**Ren**, p146, C1:figure 1; EN the modifier module is right before the output module.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang and Braden-Harder by taking the output of the experience and statistical and modifying it as taught by Ren to have a modification module to modify the front code and the rear code in accordance with a calculation result of the experience analytic and statistical module about the experience analytic parameter.

The purpose being, the front and rear codes to be modified in accordance with the results of the experience analytic and the statistical module using the experience analytic parameter.

A user interface to input data or display the calculation result (**Chang**, C1:24-28),

The combination of Chang and Braden-Harder do not teach an artificial intelligence deductive module used to compute an artificial intelligence value based on the front code or rear code, and including a multiple artificial intelligence calculation

systems. Ren teaches an artificial intelligence deductive module used to compute an artificial intelligence value based on the front code or rear code, and including a multiple artificial intelligence calculation systems (**Ren**, p146, C1:figure 1; EN The RP based translation processor is equivalent to 'artificial intelligence deductive' of applicant.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang and Braden-Harder by having a module that contains multiple artificial intelligence calculation systems that work with incoming data as taught by Ren to have an artificial intelligence deductive module used to compute an artificial intelligence value based on the front code or rear code, and including a multiple artificial intelligence calculation systems.

For the purpose of having multiple artificial intelligence calculation systems gives the system a wider foundation for calculating results.

The combination of Chang and Braden-Harder do not teach a deductive control module with a control parameter used to control which calculation system of the artificial intelligence deductive module is used. Ren teaches a deductive control module with a control parameter used to control which calculation system of the artificial intelligence deductive module is used (**Ren**, p146, C2:2-12). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify conbined teachings of Chang and Braden-Harder by having a control mechanism in place to chose which calculation system is best to use with incoming data as taught Ren to have a deductive control module with a control parameter used to control which calculation system of the artificial intelligence deductive module is used.

For the purpose of having a method in place in which to choose what calculation method is ideal.

Chang does not teach a knowledge learning module used to correlate the artificial intelligence values of the corresponding front code and rear code to correlate the relationship of the corresponding intelligence values. Braden-Harder teaches a knowledge learning module used to correlate the artificial intelligence values of the corresponding front code and rear code to correlate the relationship of the corresponding intelligence values (**Braden-Harder**, C14:15-49 and Fig. 8A; EN Applicant has a 'front code-word-rear code' or 'relationship-word-relationship' format. Braden-Harder has a 'word-relationship-word' format. The theme of the claim is correlating relationship into intelligence values. 'Intelligence values' of applicant is equivalent to 'weight' in Fig. 8A.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify teachings of Chang by assigning a intelligence value to a 'front code or rear code' as taught by Braden-Harder to having a knowledge learning module used to correlate the artificial intelligence values of the corresponding front code and rear code to correlate the relationship of the corresponding intelligence values.

The purpose is to have intelligence values for future computational purposes.

Chang, Braden-Harder and Ren do not teach a relative comparison module used to compute the experience analytic parameter according to the artificial intelligence values of the corresponding front code and rear code. Gould teaches a relative comparison module used to compute the experience analytic parameter according to

the artificial intelligence values of the corresponding front code and rear code (**Gould**, C3:42-51; 'Compute the experience analytic parameter' of applicant is equivalent to 'training' by Gould.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder and Ren by providing a method for establishing the experience analytic parameter for use in data computation as taught by Gould to have a relative comparison module used to compute the experience analytic parameter according to the artificial intelligence values of the corresponding front code and rear code.

For the purpose of using the information of the experience parameter for increased accurate results.

Claim 2.

Chang teaches a front code calculation module used to compute the front code from the data element(s) input from the user interface (**Chang**, C6:6-21).

Claim 3.

Chang does not teach the front code calculation includes an experience parameter for computing the front code. Braden-Harder teaches the front code calculation includes an experience parameter for computing the front code (**Braden-Harder**, C25:41-48; EN The input of a node on a neural network has 2 inputs, the incoming data and the weight adjustment. The 'weight' of Braden-Harder is equivalent to 'experience' of applicant.). It would have been obvious to a person having ordinary

skill in the art at the time of applicant's invention to modify teachings of Chang by including the experience parameter along with other incoming data as taught by Braden-Harder for calculation includes an experience parameter for computing the front code.

For the purpose of receiving an improved result by using a experience parameter.

Claim 4.

Chang, Braden-Harder, Ren and Gould do not teach the experience parameter of the front code calculation module is composed of a constant and a variable. Cotofana teaches the experience parameter of the front code calculation module is composed of a constant and a variable (**Cotofana**, p1118, C1:29-37; EN The constant is w_i and the variable is x_i.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren and Gould by illustrating how an experience parameter can be calculated to use with incoming data as taught by Cotofana to generate the experience parameter of the front code calculation module is composed of a constant and a variable.

For the purpose of illustrating, one method of generating an experience parameter.

Claims 5 and 10.

The combination of Chang, Braden-Harder, Ren and Gould do not teach the variable of the experience parameter is changed by the calculation result of the modification module. Cotofana teaches the variable of the experience parameter is changed by the calculation result of the modification module (**Cotofana**, p1118, C1:29-37; EN The 'modification module' of applicant is equivalent to $w_i x_i$ of Cotofana. If the parameters of the experience parameter are changed, then the calculation of the experience parameter will change due to the fact the generation of the experience parameter is a product of a constant and a variable.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combination teachings of Chang, Braden-Harder, Ren and Gould by illustrating how an experience parameter can change if one of the inputs is changed as taught by Cotofana to teach the variable of the experience parameter is changed by the calculation result of the modification module.

For the purpose of illustrating if one of the input parameters of the experience parameter is changed, then the experience parameter is changed.

Claim 6.

Chang does not teach a database containing multiple data elements. Braden-Harder teaches multiple data elements (**Braden-Harder**, C2:22-26; EN 'Multiple data elements' of applicant is equivalent to 'documents' of Braden-Harder. To locate documents implies there is at least 2 documents.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify

teachings of Chang by having a database with more than one element in it makes it useful for accessing numerous stored information as taught by Braden-Harder to have a database containing multiple data elements.

For the purpose of using the computer's ability to handle multiple data types that are part of a real world situation.

And a rear code calculation module used to compute the rear code from each data element in the database (**Chang**, C6:6-21).

Claim 7.

Chang does not teach the database is interconnected with the other database. Braden-Harder teaches the database is interconnected with other databases (**Braden-Harder**, C5:27-29; EN Having access to the world wide web, the system is interconnected to other databases.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify teachings of Chang by having access to other databases as taught by Braden-Harder interconnected with the other database.

For the purpose of not being limited to only one database thus having an expanded capability.

Claim 8.

Chang does not teach the rear code calculation includes an experience parameter for computing the rear code. Braden-Harder teaches the rear code

calculation includes an experience parameter for computing the rear code (**Braden-Harder**, C25:41-48; EN The input of a node on a neural network has 2 inputs, the incoming data and the weight adjustment. The 'weight' of Braden-Harder is equivalent to 'experience' of applicant.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify teachings of Chang by including the experience parameter along with other incoming data as taught by Braden-Harder generate the rear code calculation includes an experience parameter for computing the rear code.

For the purpose of receiving an improved result by using a experience parameter.

Claim 9.

The combination of Chang, Braden-Harder, Ren and Gould do not teach the experience parameter of the rear code calculation module is composed of a constant and a variable. Cotofana teaches the experience parameter of the rear code calculation module is composed of a constant and a variable (**Cotofana**, p1118, C1:29-37; EN The constant is w_i and the variable is x_i.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren and Gould by illustrating how an experience parameter can be calculated to use with incoming data as taught by Cotofana to generate the experience parameter of the rear code calculation module is composed of a constant and a variable.

For the purpose of illustrating, one method of generating an experience parameter.

Claim 11.

Chang, Braden-Harder, Ren, Gould and Cotofana do not teach the predetermined value of the experience analytic parameter is zero. Mehrotra teaches the predetermined value of the experience analytic parameter is zero (**Mehrotra**, p79:15-20; EN Mehrotra teaches the initial values of the weights are small and illustrates the range approaching zero. This means 'small' is equivalent to 'zero' and not 'large' in value.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren, Gould and Cotofana by starting the initial weights at zero or approaching zero is a standard starting point of neural networks as taught by Mehrotra to have the predetermined value of the experience analytic parameter is zero.

For the purpose of using an established starting points to result in consistence results.

Claim 12.

The combination of Chang, Braden-Harder, Ren, Gould and Cotofana do not teach the predetermined value of the experience analytic parameter is a value which is computed by the operating system the last time. Mehrotra teaches the predetermined value of the experience analytic parameter is a value which is computed by the

operating system the last time (**Mehrotra**, p76:1-16; EN Mehrotra illustrates pseudo-code of a backpropagation neural network. In the last lines of the 'for' loop the weights are being generated for the next cycle. Thus indicating the experience analytic parameter is being generating at the end previous cycle for use in the next cycle. If the weights were to be generated at the same time as the experience analytic parameter was to be generated, then the two lines which generate the weights would be before the 'compute' node code.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren, Gould and Cotofana by having the weights generated after the node inputs were generated thus the values of the weights are used in the next cycle of node input generation as taught by Mehrotra to have the predetermined value of the experience analytic parameter is a value which is computed by the operating system the last time.

The purpose of the experience analytic parameter is to complete the design of a back propagation neural network.

Claim 13.

The combination of Chang, Braden-Harder, Ren, Gould and Cotofana do not teach a cycle timing parameter added to each front code and rear code. Mehrotra teaches a cycle timing parameter added to each front code and rear code (**Mehrotra**, p31:14-15; EN If there is a functional values which are represented using a time series, then time is an input to such a series.). It would have been obvious to a person having

ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren, Gould and Cotofana by having the ability to have the value of time as input data as taught by Mehrotra to have a cycle timing parameter added to each front code and rear code.

For the purpose of having another variable being able to be used that relates to real world events.

Claim 14.

The combination of Chang, Braden-Harder, Ren, Gould and Cotofana do not teach the cycle timing parameter is generated based on the time each data element is input. Mehritra teaches the cycle timing parameter is generated based on the time each data element is input (**Mehrotra**, p31:15-18). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren, Gould and Cotofana by having the ability to input data along with time as it occurred as taught by Mehrotra to have the cycle timing parameter is generated based on the time each data element is input.

For the purpose of being able to forecast events due to the fact time is one of the input parameters.

Claim 15.

Chang, Braden-Harder, Ren Gould, Cotofana and Mehrotra do not teach the calculation systems of the artificial intelligence deductive module contain a fuzzy

calculation system, a nerve node calculation system and an expert calculation system. Satake teaches the calculation systems of the artificial intelligence deductive module contain a fuzzy calculation system, a nerve node calculation system and an expert calculation system (**Satake**, C10:15-20; EN 'Expert calculation system' (non-intelligent) of applicant is equivalent to 'statistical pattern recognition' of Satake.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Chang, Braden-Harder, Ren, Gould, Cotofana and Mehrotra by using different techniques for calculation as taught by Satake to have a calculation systems of the artificial intelligence deductive module contain a fuzzy calculation system, a nerve node calculation system and an expert calculation system.

For the purpose of having multiple and different calculation systems gives the system a bigger foundation for handling various types of data and environmental input.

Claim 16.

The combination of Chang and Braden-Harder do not teach the control parameter is generated base on the items that the user inputs from the user interface. Ren teaches the control parameter is generated base on the items that the user inputs from the user interface (**Ren**, p146, C1:13(section 3.1) through p146, C2:12; EN Section 3.1 illustrates data going into the system and p146, C2:10-12 illustrates how the control parameter is controlled by weights along with experience and statistical information.). It would have been obvious to a person having ordinary skill in the art at the time of

applicant's invention to modify combined teachings of Chang and Braden-Harder by having a mechanism in place in which to choose the best deductive module as taught by Ren to control parameter is generated base on the items that the user inputs from the user interface.

For the purpose choosing the best deductive module for the given task.

Claim 17.

Chang teaches a cycle timing parameter that is generated based on the time between inputting the input data and input items of the user can be added to the knowledge learning module (**Chang**, C7:16-17).

Claim 18.

The combination of Chang, Braden-Harder and Ren do not teach a relative comparison control module used to set and determine environment parameters of the relative comparison module. Gould teaches a relative comparison control module used to set and determine environment parameters of the relative comparison module (**Gould**, C3:42-51; EN 'Relative comparison control module' of applicant is equivalent to 'system for training' by Gould.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to combined teachings of Chang, Braden-Harder and Ren by having in place an established system that takes into account environment parameters as taught by Gould have a relative comparison control

module used to set and determine environment parameters of the relative comparison module.

For the purpose of having a flexible training system that has the ability to change with environmental conditions makes the system return better results.

Conclusion

4. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-'SQL Translator Using Artificial Neural Networks': N Prakash, K Garg, Y C Chopra.

-'Maximun Likelihood abd Discriminative Training of Direct Translation Models': K A Papineni, S Roukos, R T Ward.

-U. S. Patent 6098035, Yamamoto et al.

-U. S. Patent 5870750, Oyama et al.

5. Claims 1-18 are rejected.

Correspondence Information

6. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3687. Any response to this office action should be mailed to:

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on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Peter Coughlan

12/9/2005